This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claim 1 (Currently Amended): A compound, comprising: a targeting moiety and a chelator, wherein the targeting moiety is bound to the chelator, is a peptide or peptidomimetic, and binds to a receptor that is upregulated during angiogenesis, the receptor is $\alpha_v\beta_3$, and the compound has ~~0-1~~ a linking groups between the targeting moiety and chelator, the linking group having the formula:

$(CR^6R^7)_g$-$(W)_h$-$(CR^{6a}R^{7a})_{g'}$-$(Z)_k$-$(W)_{h'}$-$(CR^8R^9)_{g''}$-$(W)_{h''}$-$(CR^{8a}R^{9a})_{g'''}$

wherein,

W is independently selected at each occurrence from the group: O, S, NH, NHC(=O), C(=O)NH, C(=O), C(=O)O, OC(=O), NHC(=S)NH, NHC(=O)NH, $SO_2$, $(OCH_2CH_2)_s$, $(CH_2CH_2O)_{s'}$, $(OCH_2CH_2CH_2)_{s''}$, $(CH_2CH_2CH_2O)_t$, and $(aa)_{t'}$;

aa is independently at each occurrence an amino acid;

Z is selected from the group: aryl substituted with 0-3 $R^{10}$, $C_{3-10}$ cycloalkyl substituted with 0-3 $R^{10}$, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{10}$;

$R^6$, $R^{6a}$, $R^7$, $R^{7a}$, $R^8$, $R^{8a}$, $R^9$ and $R^{9a}$ are independently selected at each occurrence from the group: H, =O, COOH, $SO_3H$, $PO_3H$, $C_1$ $C_5$ alkyl substituted with 0-3 $R^{10}$, aryl substituted with 0-3 $R^{10}$, benzyl substituted with 0-3 $R^{10}$, and $C_1$ $C_5$ alkoxy substituted with 0-3 $R^{10}$, $NHC(=O)R^{11}$, $C(=O)NHR^{11}$, $NHC(=O)NHR^{11}$, $NHR^{11}$, $R^{11}$, and a bond to the chelator;

$R^{10}$ is independently selected at each occurrence from the group: a bond to the chelator, $COOR^{11}$, OH, $NHR^{11}$, $SO_3H$, $PO_3H$, aryl substituted with 0-3 $R^{11}$, $C_{1-5}$ alkyl substituted with 0-1 $R^{12}$, $C_{1-5}$ alkoxy substituted with 0-1 $R^{12}$, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{11}$;

$R^{11}$ is independently selected at each occurrence from the group: H, aryl substituted with 0-1 $R^{12}$, a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-1 $R^{12}$, $C_{3-10}$ cycloalkyl substituted with 0-1 $R^{12}$, polyalkylene glycol substituted with 01 $R^{12}$, carbohydrate substituted with 0-1 $R^{12}$, cyclodextrin substituted with 0-1 $R^{12}$, amino acid substituted with 0-1 $R^{12}$, polycarboxyalkyl substituted with 0-1 $R^{12}$, polyazaalkyl substituted with 0-1 $R^{12}$, peptide substituted with 0-1 $R^{12}$, wherein the peptide is comprised of 2-10 amino acids, and a bond to the chelator;

$R^{12}$ is a bond to the chelator;

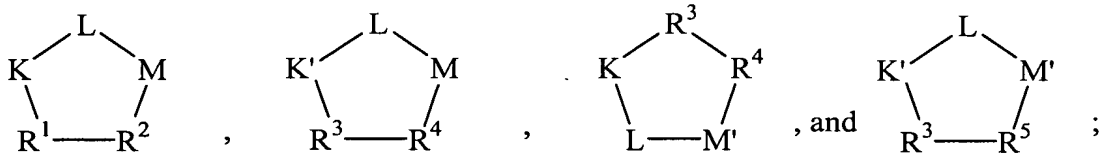
k is selected from 0, 1, and 2;
h is selected from 0, 1, and 2;
h' is selected from 0, 1, 2, 3, 4, and 5;
h" is selected from 0, 1, 2, 3, 4, and 5;
g is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
g' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
g" is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
g"' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
s is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
s' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
s" is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;
t is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10; and
t' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.

Claim 2 (Currently Amended): A compound according to Claim 1, wherein the targeting moiety is a peptide or a mimetic thereof ~~and the receptor is $\alpha_v\beta_3$~~ and the linking group is present between the targeting moiety and chelator.

Claim 3 (Previously Amended): A compound according to Claim 2, the compound is of the formula:

$$(Q)_d\text{-}L_n\text{-}C_h \text{ or } (Q)_d\text{-}L_n\text{-}(C_h)_{d'}$$

wherein, Q is a peptide independently selected from the group:




, , , and ;

K is an L-amino acid independently selected at each occurrence from the group: arginine, citrulline, N-methylarginine, lysine, homolysine, 2-aminoethylcysteine, δ–N-2-imidazolinylornithine, δ-N-benzylcarbamoylornithine, and β-2-benzimidazolylacetyl-1,2-diaminopropionic acid;

K' is a-D amino acid independently selected at each occurrence from the group: arginine, citrulline, N-methylarginine, lysine, homolysine, 2-aminoethylcysteine, δ-N-2-imidazolinylornithine, δ-N-benzylcarbamoylornithine, and β-2-benzimidazolylacetyl-1, 2-diaminopropionic acid;

L is independently selected at each occurrence from the group: glycine, L-alanine, and D-alanine;

M is L-aspartic acid;

M' is D-aspartic acid;

$R^1$ is an amino acid substituted with 0-1 bonds to $L_n$, independently selected at each occurrence from the group: glycine, L-valine, D-valine, alanine, leucine, isoleucine, norleucine, 2-aminobutyric acid, 2-aminohexanoic acid, tyrosine, phenylalanine, thienylalanine, phenylglycine, cyclohexylalanine, homophenylalanine, 1-naphthylalanine, lysine, serine, ornithine, 1,2-diaminobutyric acid, 1,2-diaminopropionic acid, cysteine, penicillamine, and methionine;

$R^2$ is an amino acid, substituted with 0-1 bonds to $L_n$, independently selected at each occurrence from the group: glycine, valine, alanine, leucine, isoleucine, norleucine, 2 aminobutyric acid, 2-aminohexanoic acid, tyrosine, L-phenylalanine, D-phenylalanine, thienylalanine, phenylglycine, biphenylglycine, cyclohexylalanine, homophenylalanine, L-1-naphthylalanine, D-1-naphthylalanine, lysine, serine, ornithine, 1,2-diaminobutyric acid, 1,2-diaminopropionic acid, cysteine, penicillamine, methionine, and 2-aminothiazole-4-acetic acid;

$R^3$ is an amino acid, substituted with 0-1 bonds to $L_n$, independently selected at each occurrence from the group: glycine, D-valine, D-alanine, D-leucine, D-isoleucine, D-norleucine, D-2-aminobutyric acid, D-2-aminohexanoic acid, D-tyrosine, D-phenylalanine, D-thienylalanine, D-phenylglycine, D-cyclohexylalanine, D-homophenylalanine, D-1-naphthylalanine, D-lysine, D-serine, D-ornithine, D-1,2-diaminobutyric acid, D-1,2-diaminopropionic acid, D-cysteine, D-penicillamine, and D-methionine;

$R^4$ is an amino acid, substituted with 0-1 bonds to $L_n$, independently selected at each occurrence from the group: glycine, D-valine, D-alanine, D-leucine, D-isoleucine, D-norleucine, D-2-aminobutyric acid, D-2-aminohexanoic acid, D-tyrosine, D-phenylalanine, D-thienylalanine, D-phenylglycine, D-cyclohexylalanine, D-homophenylalanine, D-1-naphthylalanine, D-lysine, D-serine, D-ornithine, D-1,2-diaminobutyric acid, D-1,2-diaminopropionic acid, D-cysteine, D-penicillamine, D-methionine, and 2-aminothiazole-4-acetic acid;

$R^5$ is an amino acid, substituted with 0-1 bonds to $L_n$, independently selected at each occurrence from the group: glycine, L-valine, L-alanine, L-leucine, L-isoleucine, L-norleucine, L-2-aminobutyric acid, L-2-aminohexanoic acid, L-tyrosine, L-phenylalanine, L-thienylalanine, L-phenylglycine, L-cyclohexylalanine, L-homophenylalanine, L-1-naphthylalanine, L-lysine, L-serine, L-ornithine, L-1,2-diaminobutyric acid, L-1,2-diaminopropionic acid, L-cysteine, L-penicillamine, L-methionine, and 2-aminothiazole-4-acetic acid;

provided that one of $R^1$, $R^2$, $R^3$, $R^4$, and $R^5$ in each Q is substituted with a bond to $L_n$, further provided that when $R^2$ is 2-aminothiazole-4-acetic acid, K is N-methylarginine, further provided that when $R^4$ is 2-aminothiazole-4-acetic acid, K and K' are N-methylarginine, and still further provided that when $R^5$ is 2-aminothiazole-4-acetic acid, K' is N-methylarginine;

d is selected from 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

$L_n$ is a linking group having the formula:

$(CR^6R^7)_g$-$(W)_h$-$(CR^{6a}R^{7a})g'$-$(Z)_k$-$(W)_{h'}$-$(CR^8R^9)_{g''}$-$(W)_{h''}$-$(CR^{8a}R^{9a})_{g''}$'

provided that g+h+g'+k+h'+g"+h"+g"' is other than 0;

W is independently selected at each occurrence from the group: O, S, NH, NHC(=O), C(=O)NH, C(=O), C(=O)O, OC(=O), NHC(=S)NH, NHC(=O)NH, $SO_2$, $(OCH_2CH_2)_s$, $(CH_2CH_2O)_{s'}$, $(OCH_2CH_2CH_2)_{s''}$, $(CH_2CH_2CH_2O)_t$, and $(aa)_{t'}$;

aa is independently at each occurrence an amino acid;

Z is selected from the group: aryl substituted with 0-3 $R^{10}$, $C_{3-10}$ cycloalkyl substituted with 0-3 $R^{10}$, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{10}$;

$R^6$, $R^{6a}$, $R^7$, $R^{7a}$, $R^8$, $R^{8a}$, $R^9$ and $R^{9a}$ are independently selected at each occurrence from the group: H, =O, COOH, $SO_3H$, $PO_3H$, $C_1$ $C_5$ alkyl substituted with 0-3 $R^{10}$, aryl substituted with 0-3 $R^{10}$, benzyl substituted with 0-3 $R^{10}$, and $C_1$ $C_5$ alkoxy substituted with 0-3 $R^{10}$, $NHC(=O)R^{11}$, $C(=O)NHR^{11}$, $NHC(=O)NHR^{11}$, $NHR^{11}$, $R^{11}$, and a bond to $C_h$;

$R^{10}$ is independently selected at each occurrence from the group: a bond to $C_h$, $COOR^{11}$, OH, $NHR^{11}$, $SO_3H$, $PO_3H$, aryl substituted with 0-3 $R^{11}$, $C_{1-5}$ alkyl substituted with 0-1 $R^{12}$, $C_{1-5}$ alkoxy substituted with 0-1 $R^{12}$, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{11}$;

$R^{11}$ is independently selected at each occurrence from the group: H, aryl substituted with 0-1 $R^{12}$, a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-1 $R^{12}$, $C_{3-10}$ cycloalkyl substituted with 0-1 $R^{12}$, polyalkylene glycol substituted with 01 $R^{12}$, carbohydrate substituted with 0-1 $R^{12}$, cyclodextrin substituted with 0-1 $R^{12}$, amino acid substituted with 0-1 $R^{12}$, polycarboxyalkyl substituted with 0-1 $R^{12}$, polyazaalkyl substituted with 0-1 $R^{12}$, peptide substituted with 0-1 $R^{12}$, wherein the peptide is comprised of 2-10 amino acids, and a bond to $C_h$;

$R^{12}$ is a bond to $C_h$;

k is selected from 0, 1, and 2;
h is selected from 0, 1, and 2;
h' is selected from 0, 1, 2, 3, 4, and 5;
h" is selected from 0, 1, 2, 3, 4, and 5;

g is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

g' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

g" is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

g"' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

s is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

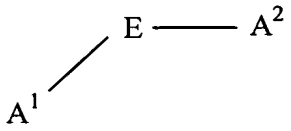
s' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

s" is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

t is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

t' is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10;

$C_h$ is a metal bonding unit having a formula selected from the group: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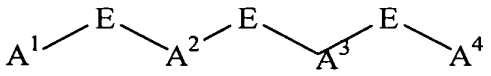
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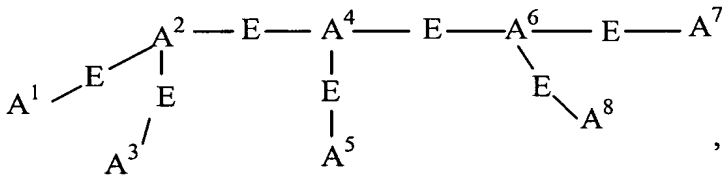
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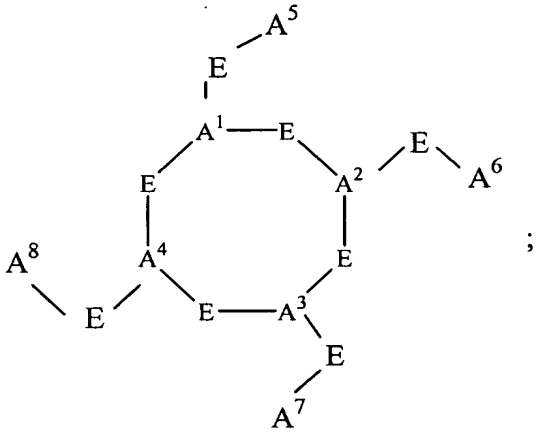

;

$A^1$, $A^2$, $A^3$, $A^4$, $A^5$, $A^6$, $A^7$, and $A^8$ are independently selected at each occurrence from the group N, $NR^{13}$, $NR^{13}R^{14}$, S, SH, S(Pg), O, OH, $PR^{13}$, $PR^{13}R^{14}$, $P(O)R^{15}R^{16}$, and a bond to $L_n$;

E is a bond, CH, or a spacer group independently selected at each occurrence from the group: $C_1$-$C_{10}$ alkyl substituted with 0-3 $R^{17}$, aryl substituted with 0-3 $R^{17}$, $C_{3\text{-}10}$ cycloalkyl

substituted with 0-3 $R^{17}$, heterocyclo $C_{1-10}$ alkyl substituted with 0-3 $R^{17}$, wherein the heterocyclo group is a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O, $C_{6\ 10}$ aryl $C_{1\ 10}$ alkyl substituted with 0-3 $R^{17}$, $C_{1\ 10}$ alkyl $C_{6\ 10}$ aryl substituted with 0-3 $R^{17}$, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{17}$;

$R^{13}$, and $R^{14}$ are each independently selected from the group: a bond to $L_n$, hydrogen, $C_1$-$C_{10}$ alkyl substituted with 0-3 $R^{17}$, aryl substituted with 0-3 $R^{17}$, $C_{1-10}$ cycloalkyl substituted with 0-3 $R^{17}$, heterocyclo $C_{1-10}$ alkyl substituted with 0-3 $R^{17}$, wherein the heterocyclo group is a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O, $C_{6-10}$ aryl $C_{1-10}$ alkyl substituted with 0-3 $R^{17}$, $C_{1-10}$ alkyl $C_{6-10}$ aryl substituted with 0-3 $R^{17}$, a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{17}$, and an electron, provided that when one of $R^{13}$ or $R^{14}$ is an electron, then the other is also an electron;

alternatively, $R^{13}$ and $R^{14}$ combine to form $=C(R^{20})(R^{21})$;

$R^{15}$ and $R^{16}$ are each independently selected from the group: a bond to $L_n$, OH, $C_1$-$C_{10}$ alkyl substituted with 0-3 $R^{17}$, $C_1$-$C_{10}$ alkyl substituted with 0-3 $R^{17}$, aryl substituted with 0-3 $R^{17}$, $C_{3-10}$ cycloalkyl substituted with 0-3 $R^{17}$, heterocyclo $C_{1-10}$ alkyl substituted with 0-3 $R^{17}$, wherein the heterocyclo group is a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O, $C_{6-10}$ aryl $C_{1-10}$ alkyl substituted with 0-3 $R^{17}$, $C_{1-10}$ alkyl $C_{6-10}$ aryl substituted with 0-3 $R^{17}$, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{17}$;

$R^{17}$ is independently selected at each occurrence from the group: a bond to $L_n$, =O, F, Cl, Br, I, $-CF_3$, -CN, $-CO_2R^{18}$, $-C(=O)R^{18}$, $-C(=O)N(R^{18})_2$, -CHO, $-CH_2OR^{18}$, $-OC(=O)R^{18}$, $-OC(=O)OR^{18a}$, $-OR^{18}$, $-OC(=O)N(R^{18})_2$, $-NR^{19C}(=O)R^{18}$, $-NR^{19C}(=O)OR^{18a}$,

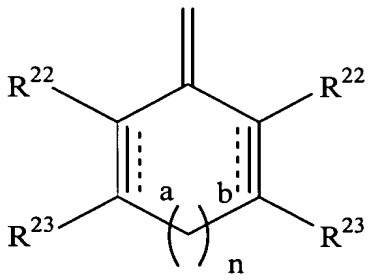
$-NR^{19}C(=O)N(R^{18})_2$, $-NR^{19}SO_2N(R^{18})_2$, $-NR^{19}SO_2R^{18a}$, $-SO_3H$, $-SO_2R^{18a}$, $-SR^{18}$, $-S(=O)R^{18a}$, $-SO_2N(R^{18})_2$, $-N(R^{18})_2$, $-NHC(=S)NHR^{18}$, $=NOR^{18}$, $NO_2$, $-C(=O)NHOR^{18}$, $-C(=O)NHNR^{18}R^{18a}$, $-OCH_2CO_2H$, 2-(1 morpholino)ethoxy, $C_1$-$C_5$ alkyl, $C_2$-$C_4$ alkenyl, $C_3$-$C_6$ cycloalkyl, $C_3$-$C_6$ cycloalkylmethyl, $C_2$-$C_6$ alkoxyalkyl, aryl substituted with 0-2 $R^{18}$, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O;

$R^{18}$, $R^{18a}$, and $R^{19}$ are independently selected at each occurrence from the group: a bond to $L_n$, H, $C_1$-$C_6$ alkyl, phenyl, benzyl, $C_1$-$C_6$ alkoxy, halide, nitro, cyano, and trifluoromethyl;

Pg is a thiol protecting group;

$R^{20}$ and $R^{21}$ are independently selected from the group: H, $C_1$-$C_{10}$ alkyl, -CN, $-CO_2R^{25}$, $-C(=O)R^{25}$, $-C(=O)N(R^{25})_2$, $C_2$-$C_{10}$ 1-alkene substituted with 0-3 $R^{23}$, C2-C10 1-alkyne substituted with 0-3 $R^{23}$, aryl substituted with 0-3 $R^{23}$, unsaturated 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{23}$, and unsaturated $C_{3-10}$ carbocycle substituted with 0-3 $R^{23}$;

alternatively, $R^{20}$ and $R^{21}$, taken together with the divalent carbon radical to which they are attached form:



$R^{22}$ and $R^{23}$ are independently selected from the group: H, $R^{24}$, $C_1$-$C_{10}$ alkyl substituted with 0-3 $R^{24}$, $C_2$-$C_{10}$ alkenyl substituted with 0-3 $R^{24}$, $C_2$-$C_{10}$ alkynyl substituted with 0-3 $R^{24}$, aryl substituted with 0-3 $R^{24}$, a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{24}$, and $C_{3-10}$ carbocycle substituted with 0-3 $R^{24}$;

alternatively, $R^{22}$, $R^{23}$ taken together form a fused aromatic or a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O;

**a** and **b** indicate the positions of optional double bonds and **n** is 0 or 1;

$R^{24}$ is independently selected at each occurrence from the group: =O, F, Cl, Br, I, $-CF_3$, -CN, $-CO_2R^{25}$, $-C(=O)R^{25}$, $-C(=O)N(R^{25})_2$, $-N(R^{25})_3+$, $-CH_2OR^{25}$, $-OC(=O)R^{25}$, $-OC(=O)OR^{25a}$, $-OR^{25}$, $-OC(=O)N(R^{25})_2$, $-NR^{26}C(=O)R^{25}$, $-NR^{26}C(=O)OR^{25a}$, $-NR^{26}C(=O)N(R^{25})_2$, $-NR^{26}SO_2N(R^{25})_2$, $-NR^{26}SO_2R^{25a}$, $-SO_3H$, $-SO_2R^{25a}$, $-SR^{25}$, $-S(=O)R^{25a}$, $-SO_2N(R^{25})_2$, $-N(R^{25})_2$, $=NOR^{25}$, $-C(=O)NHOR^{25}$, $-OCH_2CO_2H$, and 2-(1-morpholino)ethoxy; and,

$R^{25}$, $R^{25a}$, and $R^{26}$ are each independently selected at each occurrence from the group: hydrogen and $C_1$-$C_6$ alkyl;

and a pharmaceutically acceptable salt thereof.

Claim 4 (Currently Amended): A compound according to Claim 3, ~~the present invention provides a compound,~~ wherein:

L is glycine;

$R^1$ is an amino acid, optionally substituted with a bond to Ln, independently selected at each occurrence from the group: L-valine, D-valine, alanine, leucine, isoleucine, norleucine, 2-aminobutyric acid, tyrosine, phenylalanine, phenylglycine,

cyclohexylalanine, homophenylalanine, lysine, ornithine, 1,2-diaminobutyric acid, and 1,2-diaminopropionic acid;

$R^2$ is an amino acid, optionally substituted with a bond to Ln, independently selected at each occurrence from the group: valine, alanine, leucine, isoleucine, norleucine, 2-aminobutyric acid, tyrosine, L-phenylalanine, D-phenylalanine, thienylalanine, phenylglycine, biphenylglycine, cyclohexylalanine, homophenylalanine, L-1-naphthylalanine, D-1-naphthylalanine, lysine, ornithine, 1,2-diaminobutyric acid, 1,2-diaminopropionic acid, and 2-aminothiazole-4-acetic acid;

$R^3$ is an amino acid, optionally substituted with a bond to Ln, independently selected at each occurrence from the group: D-valine, D-alanine, D-leucine, D-isoleucine, D-norleucine, D-2-aminobutyric acid, D-tyrosine, D-phenylalanine, D-phenylglycine, D-cyclohexylalanine, D-homophenylalanine, D-lysine, D-serine, D-ornithine, D-1,2-diaminobutyric acid, and D-1,2-diaminopropionic acid;

$R^4$ is an amino acid, optionally substituted with a bond to $L_n$, independently selected at each occurrence from the group: D-valine, D-alanine, D-leucine, D-isoleucine, D-norleucine, D-2-aminobutyric acid, D-tyrosine, D-phenylalanine, D-thienylalanine, D-phenylglycine, D-cyclohexylalanine, D-homophenylalanine, D-1-naphthylalanine, D-lysine, D-ornithine, D1,2-diaminobutyric acid, D-1,2-diaminopropionic acid, and 2-aminothiazole4-acetic acid;

$R^5$ is an amino acid, optionally substituted with a bond to $L_n$, independently selected at each occurrence from the group: L-valine, L-alanine, L-leucine, L-isoleucine, L-norleucine, L-2-aminobutyric acid, L-tyrosine, L-phenylalanine, L-thienylalanine, L-phenylglycine, L-cyclohexylalanine, L-homophenylalanine, L-1-naphthylalanine, L-lysine, L-ornithine, L-1,2-diaminobutyric acid, L-1,2-diaminopropionic acid, and 2-aminothiazole-4-acetic acid;

d is selected from 1, 2, and 3;

W is independently selected at each occurrence from the group: O, NH, NHC(=O), C(=O)NH, C(=O), C(=O)O, OC(=O), NHC(=S)NH, NHC(=O)NH, $SO_2$, $(OCH_2CH_2)_s$, $(CH_2CH_2O)_{s'}$, $(OCH_2CH_2CH_2)_{s''}$, and $(CH_2CH_2CH_2O)_t$,

Z is selected from the group: aryl substituted with 0-1 $R^{10}$, $C_{3\ 10}$ cycloalkyl substituted with 0-1 $R^{10}$, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-1 $R^{10}$;

$R^6$, $R^{6a}$, $R^7$, $R^{7a}$, $R^8$, $R^{8a}$, $R^9$, and $R^{9a}$ are independently selected at each occurrence from the group: H, =O, COOH, $SO_3H$, $C_1$-$C_5$ alkyl substituted with 0-1 $R^{10}$, aryl substituted with 0-1 $R^{10}$, benzyl substituted with 0-1 $R^{10}$, and $C_1$-$C_5$ alkoxy substituted with 0-1 $R^{10}$, $NHC(=O)R^{11}$, $C(=O)NHR^{11}$, $NHC(=O)NHR^{11}$, $NHR^{11}$, $R^{11}$, and a bond to $C_h$;

$R^{10}$ is independently selected at each occurrence from the group: $COOR^{11}$, OH, $NHR^{11}$, $SO_3H$, aryl substituted with 0-1 $R^{11}$, a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-1 $R^{11}$, $C_1$-$C_5$ alkyl substituted with 0-1 $R^{12}$, $C_1$-$C_5$ alkoxy substituted with 0-1 $R^{12}$, and a bond to $C_h$;

$R^{11}$ is independently selected at each occurrence from the group: H, aryl substituted with 0-1 $R^{12}$, a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-1 $R^{12}$, polyalkylene glycol substituted with 0-1 $R^{12}$, carbohydrate substituted with 0-1 $R^{12}$, cyclodextrin substituted with 0-1 $R^{12}$, amino acid substituted with 0-1 $R^{12}$, and a bond to $C_h$;

k is 0 or 1;

h is 0 or 1;

h' is 0 or 1;

s is selected from 0, 1, 2, 3, 4, and 5;

s' is selected from 0, 1, 2, 3, 4, and 5;

s" is selected from 0, 1, 2, 3, 4, and 5;

t is selected from 0, 1, 2, 3, 4, and 5;

$A^1$, $A^2$, $A^3$, $A^4$, $A^5$, $A^6$, $A^7$, and $A^8$ are independently selected at each occurrence from the group: $NR^{13}$, $NR^{13}R^{14}$, S, SH, S(Pg), OH, and a bond to $L_n$;

E is a bond, CH, or a spacer group independently selected at each occurrence from the group: $C_1$-$C_{10}$ alkyl substituted with 0-3 $R^{17}$, aryl substituted with 0-3 $R^{17}$, $C_{3\text{-}10}$ cycloalkyl substituted with 0-3 $R^{17}$, and a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{17}$;

$R^{13}$, and $R^{14}$ are each independently selected from the group: a bond to $L_n$, hydrogen, $C_1$-$C_{10}$ alkyl substituted with 0-3 $R^{17}$, aryl substituted with 0-3 $R^{17}$, a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{17}$, and an electron, provided that when one of $R^{13}$ or $R^{14}$ is an electron, then the other is also an electron;

alternatively, $R^{13}$ and $R^{14}$ combine to form $=C(R^{20})(R^{21})$;

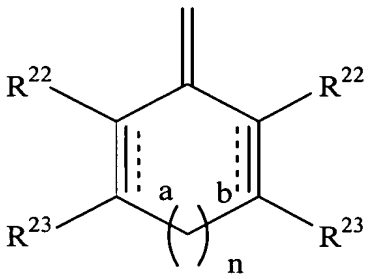
$R^{17}$ is independently selected at each occurrence from the group: a bond to $L_n$, =O, F, Cl, Br, I, $-CF_3$, -CN, $-CO_2R^{18}$, $-C(=O)R^{18}$, $-C(=O)N(R^{18})_2$, $-CH_2OR^{18}$, $-OC(=O)R^{18}$, $-OC(=O)OR^{18a}$, $-OR^{18}$, $-OC(=O)N(R^{18})_2$, $-NR^{19}C(=O)R^{18}$, $-NR^{19}C(=O)OR^{18a}$, $-NR^{19}C(=O)N(R^{18})_2$, $-NR^{19}SO_2N(R^{18})_2$, $-NR^{19}SO_2R^{18a}$, $-SO_3H$, $-SO_2R^{18a}$, $-S(=O)R^{18a}$, $-SO_2N(R^{18})_2$, $-N(R^{18})_2$, $-NHC(=S)NHR^{18}$, $=NOR^{18}$, $-C(=O)NHNR^{18}R^{18a}$, $-OCH_2CO_2H$, and 2-(1-morpholino)ethoxy;

$R_{18}$, $R_{18a}$, and $R_{19}$ are independently selected at each occurrence from the group: a bond to $L_n$, H, and $C_1$-$C_6$ alkyl;

$R^{20}$ and $R^{21}$ are independently selected from the group: H, $C_1$-$C_5$ alkyl, $-CO_2R^{25}$, $C_2$-$C_5$ 1-alkene substituted with 0-3 $R^{23}$, $C_2$-$C_5$ 1-alkyne substituted with 0-3 $R^{23}$, aryl

substituted with 0-3 $R^{23}$, and unsaturated 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O and substituted with 0-3 $R^{23}$;

alternatively, $R^{20}$ and $R^{21}$, taken together with the divalent carbon radical to which they are attached form:




$R^{22}$ and $R^{23}$ are independently selected from the group: H, and $R^{24}$;

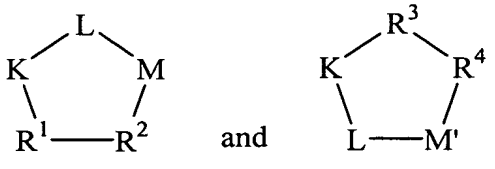
alternatively, $R^{22}$, $R^{23}$ taken together form a fused aromatic or a 5-10 membered heterocyclic ring system containing 1-4 heteroatoms independently selected from N, S, and O;

$R^{24}$ is independently selected at each occurrence from the group: -CO2$R^{25}$, -C(=O)N($R^{25}$)2, -$CH_2OR^{25}$, -OC(=O)$R^{25}$, -$OR^{25}$, -$SO_3H$, -N($R^{25}$)2, and -$OCH_2CO_2H$; and,

$R^{25}$ is independently selected at each occurrence from the group: H and $C_1$-$C_3$ alkyl.

Claim 5 (Currently Amended): A compound according to Claim 4, ~~the present invention provides a compound,~~ wherein:

Q is a peptide selected from the group:




;

$R^1$ is L-valine, D-valine, D-lysine optionally substituted on the ε amino group with a bond to $L_n$ or L-lysine optionally substituted on the ε amino group with a bond to $L_n$;

$R^2$ is L-phenylalanine, D-phenylalanine, D-1-naphthylalanine, 2-aminothiazole-4-acetic acid, L-lysine optionally substituted on the ε amino group with a bond to $L_n$ or tyrosine, the tyrosine optionally substituted on the hydroxy group with a bond to $L_n$;

$R^3$ is D-valine, D-phenylalanine, or L-lysine optionally substituted on the ε amino group with a bond to $L_n$;

$R^4$ is D-phenylalanine, D-tyrosine substituted on the hydroxy group with a bond to $L_n$, or L-lysine optionally substituted on the ε amino group with a bond to $L_n$;

provided that one of $R^1$ and $R^2$ in each Q is substituted with a bond to $L_n$, and further provided that when $R^2$ is 2-aminothiazole-4-acetic acid, K is N methylarginine;

d is 1 or 2;

W is independently selected at each occurrence from the group: NHC(=O), C(=O)NH, C(=O), $(CH_2CH_2O)_{s'}$, and $(CH_2CH_2CH_2O)_t$;

$R^6$, $R^{6a}$, $R^7$, $R^{7a}$, $R^8$, $R^{8a}$, $R^9$, and $R^{9a}$ are independently selected at each occurrence from the group: H, $NHC(=O)R^{11}$, and a bond to $C_h$;

k is 0;

h" is selected from 0, 1, 2, and 3;

g is selected from 0, 1, 2, 3, 4, and 5;

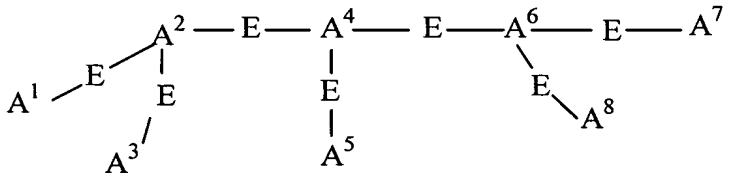
g' is selected from 0, 1, 2, 3, 4, and 5;

g" is selected from 0, 1, 2, 3, 4, and 5;

g"' is selected from 0, 1, 2, 3, 4, and 5;

s' is 1 or 2;

t is 1 or 2;

$C_h$ is  ;

$A^1$ is selected from the group: OH, and a bond to $L_n$;

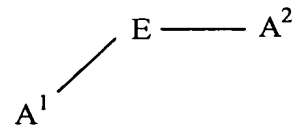
$A^2$, $A^4$, and $A^6$ are each N;

$A^3$, $A^5$, and $A^8$ are each OH;

$A^7$ is a bond to $L_n$ or NH-bond to $L_n$;

E is a $C_2$ alkyl substituted with 0-1 $R^{17}$;

$R^{17}$ is =O;

alternatively, $C_h$ is  ;

$A^1$ is $NH_2$ or $N=C(R^{20})(R^{21})$;

E is a bond;

$A^2$ is $NHR^{13}$;

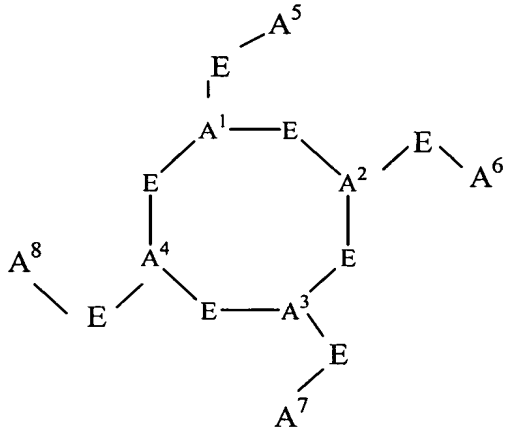
$R^{13}$ is a heterocycle substituted with $R^{17}$, the heterocycle being selected from pyridine and pyrimidine;

$R^{17}$ is selected from a bond to $L_n$, $C(=O)NHR^{18}$, and $C(=O)R^{18}$;

$R^{18}$ is a bond to $L_n$;

$R^{24}$ is selected from the group: $CO2R^{25}$, $OR^{25}$, SO3H, and $N(R^{25})_2$;

$R^{25}$ is independently selected at each occurrence from the group: hydrogen and methyl;




alternatively, $C_h$ is ;

$A^1$, $A^2$, $A^3$, and $A^4$ are each N;

$A^5$, $A^6$, and $A^8$ are each OH;

$A^7$ is a bond to $L_n$;

E is a $C_2$ alkyl substituted with 0-1 $R^{17}$; and,

$R^{17}$ is =O.

Claim 6 (Currently Amended): A compound according to Claim 3, ~~the present invention provides a compound~~ selected from the group:

(a) cyclo{Arg-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};

(b) cyclo{Arg-Gly-Asp-D-Tyr((N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-18-amino-14-aza-4,7,10-oxy-15-oxo-octadecoyl)-3-aminopropyl)-Val};

(c) [2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{D-Tyr(3-aminopropyl)-Val-Arg-Gly-Asp})-cyclo{D-Tyr(3-aminopropyl)-Val-Arg-Gly-Asp};

(d) cyclo(Arg-Gly-Asp-D-Tyr-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])};

(e) cyclo{Arg-Gly-Asp-D-Phe-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])};

(f) [2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe};

(g) [2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Phe-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe};

(h) cyclo{Arg-Gly-Asp-D-Nal-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])};

(i) [2-[[[5-[carbonyl]-2-pyridinyl]-hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{Lys-Arg-Gly-Asp-D-Nal})-cyclo{Lys-Arg-Gly-Asp-D-Nal};

(j) cyclo{Arg-Gly-Asp-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])-D-Val} ;

(k) [2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{Lys-D-Val-Arg-Gly-Asp})-cyclo{Lys-D-Val-Arg-Gly-Asp};

(l) {cyclo(Arg-D-Val-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-D-Asp-Gly};

(m) cyclo{D-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])-D-Phe-D-Asp-Gly-Arg};

(n) [2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{D-Lys-D-Phe-D-Asp-Gly-Arg})-cyclo{D-Lys-D-Phe-D-Asp-Gly-Arg};

(o) cyclo{D-Phe-D-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])-D-Asp-Gly-Arg};

(p) cyclo{N-Me-Arg-Gly-Asp-ATA-D-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])};

(q) cyclo{Cit-Gly-Asp-D-Phe-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])};

(r) 2-(1,4,7,10-tetraaza-4,7,10-tris(carboxymethyl)-1-cyclododecyl)acetyl-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe};

(s) cyclo{Arg-Gly-Asp-D-Phe-Lys(DTPA)};

(t) cyclo{Arg-Gly-Asp-D-Phe-Lys}2(DTPA);

(u) Cyclo{Arg-Gly-Asp-D-Tyr(N-DTPA-3-aminopropyl)-Val};

(v) cyclo{Orn(d-N-2-Imidazolinyl)-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};

(w) cyclo{Lys-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};

(x) cyclo{Cys(2-aminoethyl)-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};

(y) cyclo{HomoLys-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};

(z) cyclo{Orn(d-N-Benzylcarbamoyl)-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};

(aa) cyclo{Dap(b-(2-benzimidazolylacetyl))-Gly-Asp-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-Val};

(bb) cyclo{Orn(d-N-2-Imidazolinyl)-Gly-Asp-D-Phe-Lys(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])};

(cc) cyclo{Orn(d-N-Benzylcarbamoyl)-Gly-Asp-D-Phe-Lys(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])};

(dd) cyclo{Lys-D-Val-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-D-Asp-Gly};

(ee) cyclo{Orn(d-N-Benzylcarbamoyl)-D-Val-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-D-Asp-Gly}; and,

(ff) cyclo{Orn(d-N-2-Imidazolinyl)-D-Val-D-Tyr(N-[2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-3-aminopropyl)-D-Asp-Gly};

or a pharmaceutically acceptable salt form thereof.

Claim 7 (Original): A kit comprising a compound of Claim 3, or a pharmaceutically acceptable salt form thereof and a pharmaceutically acceptable carrier.

Claim 8 (Original): A kit according to Claim 7, wherein the kit further comprises one or more ancillary ligands and a reducing agent.

Claim 9 (Original): A kit according to Claim 8, wherein the ancillary ligands are tricine and TPPTS.

Claim 10 (Original): A kit according to Claim 9, wherein the reducing agent is tin(II).

Claim 11 (Canceled)

Claim 12 (Currently Amended): A ~~composition according to Claim 11~~ metallopharmaceutical comprising the compound of Claim 1 and~~, wherein the metallopharmaceutical is a diagnostic radiopharmaceutical, the metal is~~ a radioisotope selected from the group: $^{99m}Tc$, $^{95}Tc$, $^{111}In$, $^{62}Cu$, $^{64}Cu$, $^{67}Ga$, and $^{68}Ga$, wherein the targeting moiety is a peptide or a mimetic thereof and the linking group is present between the targeting moiety and chelator.

Claim 13 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 12, wherein the targeting moiety is a cyclic pentapeptide.

Claim 14. (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 13, wherein the radioisotope is $^{99m}$Tc or $^{95}$Tc, and the ~~radiopharmaceutical~~ metallopharmaceutical further comprises a first ancillary ligand and a second ancillary ligand capable of stabilizing the ~~radiopharmaceutical~~ metallopharmaceutical.

Claim 15 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 14, wherein the radioisotope is $^{99m}$Tc.

Claim 16 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 15, wherein the ~~radiopharmaceutical~~ metallopharmaceutical is selected from the group:

$^{99m}$Tc(tricine)(TPPTS)(cyclo(Arg-Gly-Asp-D-Tyr(N-[[5-[carbonyl]-2-pyridinyl]diazenido]-3-aminopropyl)-Val));

$^{99m}$Tc(tricine)(TPPMS)(cyclo(Arg-D-Val-D-Tyr(N-[[5-[carbonyl]-2-pyridinyl]diazenido]-3-aminopropyl)-D-Asp-Gly));

$^{99m}$Tc(tricine)(TPPDS)(cyclo(Arg-D-Val-D-Tyr(N-[[5-[carbonyl]-2-pyridinyl]diazenido]-3-aminopropyl)-D-Asp-Gly));

$^{99m}$Tc(tricine)(TPPTS)(cyclo(Arg-D-Val-D-Tyr(N-[[5-[carbonyl]-2-pyridinyl]diazenido]-3-aminopropyl)-D-Asp-Gly));

$^{99m}$Tc(tricine)(TPPTS)(cyclo(Arg-Gly-Asp-D-Phe-Lys(N-[[5-[carbonyl]-2-pyridinyl]diazenido])));

$^{99m}$Tc(tricine)(TPPTS)(cyclo(Arg-Gly-Asp-D-Tyr-Lys(N-[[5-[carbonyl]-2-pyridinyl]diazenido])));

$^{99m}$Tc(tricine)(TPPTS)([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Phe-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe});

$^{99m}$Tc(tricine)(TPPTS)(cyclo{Arg-Gly-Asp-D-Nal-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])});

$^{99m}$Tc(tricine)(TPPTS)([2-[[[5-[carbonyl]-2-pyridinyl]-hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{Lys-Arg-Gly-Asp-D-Nal})-cyclo{Lys-Arg-Gly-Asp-D-Nal});

$^{99m}$Tc(tricine)(TPPTS)(cyclo(Arg-Gly-Asp-D-Tyr((N-[[5-[carbonyl]-2-pyridinyl]diazenido]-18-amino-14-aza-4,7,10-oxy-15-oxo-octadecoyl)-3-aminopropyl)-Val));

$^{99m}$Tc(tricine)(TPPTS)(N-[[5-[carbonyl]-2-pyridinyl]diazenido]-Glu(O-cyclo(Lys-Arg-Gly-Asp-D-Phe))-O-cyclo(Lys-Arg-Gly-Asp-D-Phe));

$^{99m}$Tc(tricine)(TPPTS)(N-[[5-[carbonyl]-2-pyridinyl]diazenido]-Glu(O-cyclo(D-Tyr(3-aminopropyl)-Val-Arg-Gly-Asp))-O-cyclo(D-Tyr(3-aminopropyl)-Val-Arg-Gly-Asp));

$^{99m}$Tc(tricine)(TPPTS)(cyclo(Arg-Gly-Asp-Lys(N-[[5-[carbonyl]-2-pyridinyl]diazenido])-D-Val));

$^{99m}$Tc(tricine)(TPPTS)(cyclo{D-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])-D-Phe-D-Asp-Gly-Arg});

$^{99m}$Tc(tricine)(TPPTS)([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid]-Glu(cyclo{D-Lys-D-Phe-D-Asp-Gly-Arg})-cyclo{D-Lys-D-Phe-D-Asp-Gly-Arg});

$^{99m}$Tc(tricine)(TPPTS)(cyclo{D-Phe-D-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])-D-Asp-Gly-Arg});

$^{99m}$Tc(tricine)(TPPTS)(cyclo(N-Me-Arg-Gly-Asp-ATA-D-Lys(N-[[5-[carbonyl]-2-pyridinyl]diazenido])));

$^{99m}$Tc(tricine)(TPPTS)(cyclo{Cit-Gly-Asp-D-Phe-Lys([2-[[[5-[carbonyl]-2-pyridinyl]hydrazono]methyl]-benzenesulfonic acid])}); and,

$^{99m}$Tc(tricine)(1,2,4-triazole)(cyclo(Arg-Gly-Asp-D-Tyr(N-[[5-[carbonyl]-2-pyridinyl]diazenido]-3-aminopropyl)-Val)).

Claim 17 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 13, wherein the radioisotope is $^{111}$In.

Claim 18 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 17, wherein the ~~radiopharmaceutical~~ metallopharmaceutical is selected from the group:

(DOTA-$^{111}$In)-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe};

cyclo(Arg-Gly-Asp-D-Phe-Lys(DTPA-$^{111}$In)); and~~,~~

cyclo(Arg-Gly-Asp-D-Phe-Lys)2(DTPA-$^{111}$In).

Claim 19 (Currently Amended): A ~~composition according to Claim 11~~ metallopharmaceutical comprising the compound of Claim 1 and~~, wherein the metallopharmaceutical is a therapeutic radiopharmaceutical, the metal is~~ a radioisotope selected from the group: $^{186}$Re, $^{188}$Re, $^{153}$Sm, $^{166}$Ho, $^{177}$Lu, $^{149}$Pm, $^{90}$Y, $^{212}$Bi, $^{103}$Pd, $^{109}$Pd, $^{159}$Gd, $^{140}$La, $^{198}$Au, $^{199}$Au, $^{169}$Yb, $^{175}$Yb, $^{165}$Dy, $^{166}$Dy, $^{67}$Cu, $^{105}$Rh,

$^{111}$Ag, and $^{192}$Ir, the targeting moiety is a peptide or a mimetic thereof and the linking group is present between the targeting moiety and chelator.

Claim 20 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 19, wherein the targeting moiety is a cyclic pentapeptide.

Claim 21 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 20, wherein the radioisotope is $^{153}$Sm.

Claim 22 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 21, wherein the ~~radiopharmaceutical~~ metallopharmaceutical is selected from the group:

cyclo(Arg-Gly-Asp-D-Phe-Lys(DTPA-$^{153}$Sm));

cyclo(Arg-Gly-Asp-D-Phe-Lys)2(DTPA-$^{153}$Sm); and,

cyclo(Arg-Gly-Asp-D-Tyr(N-DTPA($^{153}$Sm)-3-aminopropyl)-Val).

Claim 23 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 20, wherein the radioisotope is $^{177}$Lu.

Claim 24 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 23, wherein the ~~radiopharmaceutical~~ metallopharmaceutical is selected from the group:

cyclo(Arg-Gly-Asp-D-Phe-Lys(DTPA-$^{177}$Lu));

(DOTA-$^{177}$Lu)-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe};

cyclo(Arg-Gly-Asp-D-Phe-Lys)2(DTPA-$^{177}$Lu); and,

cyclo(Arg-Gly-Asp-D-Tyr(N-DTPA($^{177}$Lu)-3-aminopropyl)-Val).

Claim 25 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 20, wherein the radioisotope is $^{90}$Y.

Claim 26 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 25, wherein the ~~radiopharmaceutical~~ metallopharmaceutical is:

(DOTA-$^{90}$Y)-Glu(cyclo{Lys-Arg-Gly-Asp-D-Phe})-cyclo{Lys-Arg-Gly-Asp-D-Phe};

Claim 27 (Currently Amended): A ~~composition according to Claim 11~~ metallopharmaceutical comprising the compound of Claim 1 and~~, wherein the metallopharmaceutical is a MRI contrast agent, the metal is~~ a paramagnetic metal ion selected from the group: Gd(III), Dy(III), Fe(III), and Mn(II), wherein the targeting moiety is a peptide or a mimetic and the linking group is present between the targeting moiety and chelator.

Claim 28 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 27, wherein the targeting moiety is a cyclic pentapeptide.

Claim 29 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 28, wherein the metal ion is Gd(III).

Claim 30 (Currently Amended): A ~~composition~~ metallopharmaceutical according to Claim 29, wherein the contrast agent is:

cyclo(Arg-Gly-Asp-D-Tyr(N-DTPA(Gd(III))-3-aminopropyl)-Val).

Claim 31 (Currently Amended): A ~~composition according to Claim 11~~ metallopharmaceutical comprising the compound of Claim 1 and a~~, wherein the~~

~~metallopharmaceutical is a X-ray contrast agent, the~~ metal ~~is~~ selected from the group: Re, Sm, Ho, Lu, Pm, Y, Bi, Pd, Gd, La, Au, Au, Yb, Dy, Cu, Rh, Ag, and Ir, wherein the targeting moiety is a cyclic pentapeptide, and the linking group is present between the targeting moiety and chelator.

Claim 32 (Currently Amended): A method of treating rheumatoid arthritis in a patient comprising: administering a ~~therapeutic radiopharmaceutical~~ metallopharmaceutical of Claim ~~11~~ 19 capable of localizing in new angiogenic vasculature to a patient by injection or infusion.

Claim 33 (Currently Amended): A method of treating cancer in a patient comprising: administering to a patient in need thereof a ~~therapeutic radiopharmaceutical~~ metallopharmaceutical of Claim ~~11~~ 19 by injection or infusion.

Claim 34 (Currently Amended): A method of imaging formation of new blood vessels in a patient comprising: (1) administering a metallopharmaceutical comprising the compound of Claim 1 and a metal ~~diagnostic radiopharmaceutical, a MRI contrast agent, or a X-ray contrast agent of Claim 11~~ to a patient by injection or infusion; (2) imaging the area of the patient wherein the desired formation of new blood vessels is located.

Claim 35 (Currently Amended): A method of imaging cancer in a patient comprising: (1) administering a ~~diagnostic radiopharmaceutical~~ metallopharmaceutical of Claim 12 to a patient by injection or infusion; (2) imaging the patient using planar or SPECT gamma scintigraphy, or positron emission tomography.

Claims 36-47 (Canceled)

Claim 48 (Currently Amended): A therapeutic radiopharmaceutical composition, comprising:

(a) a ~~therapeutic radiopharmaceutical~~ metallopharmaceutical of Claim ~~11~~ 19; and,

(b) a parenterally acceptable carrier.

Claim 49 (Currently Amended): A diagnostic radiopharmaceutical composition, comprising:

(a) a metallopharmaceutical comprising the compound of Claim 1 and a metal ~~diagnostic radiopharmaceutical, a MRI contrast agent, or a X-ray contrast agent of Claim 11~~; and,

(b) a parenterally acceptable carrier.

Claim 50 (Original): A therapeutic radiopharmaceutical composition, comprising: a radiolabelled targeting moiety, wherein the targeting moiety is a compound Q of Claim 3 and the radiolabel is a therapeutic isotope selected from the group: $^{35}S$, $^{32}P$, $^{125}I$, $^{131}I$, and $^{211}At$.

Claim 51 (Canceled)